CENTRAL ASIAN JOURNAL OF INNOVATIONS ON TOURISM MANAGEMENT AND FINANCE

https://cajitmf.centralasianstudies.org/index.php/CAJITMF

Volume: 06 Issue: 03 | July 2025 ISSN: 2660-454X

Article

Innovative Directions for The Effective Use of Power in The Agricultural Sector of The Economy

Bekmirzaev Mirzoxid Adashalievich[1]

1. Head of the Educational and Methodological, Department of Namangan State Technical University
*Correspondence: presentutor@gmail.com

Abstract: This article provides an extensive scientific-theoretical and practical analysis of innovative approaches aimed at effectively utilizing the existing potential within the agricultural sector of the economy. The research identifies opportunities for enhancing economic efficiency through the application of innovative technologies and modern production methods in agriculture. Furthermore, the study comprehensively reviews international and local experiences related to implementing agrotechnologies, optimizing cultivated areas, and improving the processes of product manufacturing and processing. Additionally, significant emphasis is placed on developing mechanisms for scientific research and innovative projects in the agricultural sector, aligning the quality and competitiveness of agricultural products with international quality standards, and introducing advanced logistics and marketing strategies. As a result of the research, clear and practical recommendations are formulated for comprehensively modernizing the agricultural sector and ensuring regional economic development. The study also explores opportunities to broaden the engagement of farm enterprises with innovations by refining government subsidies and other financial incentive mechanisms. Ultimately, the research substantiates, through practical examples, how efficiently harnessing existing potential can ensure agricultural sector sustainability and enhance its competitiveness in global markets.

Keywords: Agricultural sector, economic potential, innovative technologies, agrotechnologies, production efficiency, processing, modernization, optimization, sustainable development, competitiveness

Citation: Adashalievich, B. M. Innovative Directions for The Effective Use of Power In The Agricultural Sector of The Economy. Central Asian Journal of Innovations on Tourism Management and Finance 2025, 6(3), 1031-1036.

Received: 15th Dec 2024
Revised: 29th Dec 2024
Accepted: 11th Jan 2025
Published: 31th Jan 2025

1. Introduction

Currently, the agricultural sector of the economy is of great importance as a strategic factor in ensuring economic stability, food security and employment, both globally and nationally. World experience shows that the introduction of modern innovative technologies and advanced production practices in the agricultural sector allows for a significant increase in the efficiency of product production. According to the FAO, one of the international organizations, it is necessary to increase global food production by 60% by 2050, and the need to use innovative approaches to achieve this goal is emphasized [1]. The World Bank report scientifically substantiates the key role of the agricultural sector in providing food to 65% of the world's population [2].

The Republic of Uzbekistan is consistently implementing a policy of widespread use of new technologies in line with international standards in order to ensure the modernization and innovative development of the agricultural sector. In this regard, the Presidential Decree "On the National Strategy for the Development of Agriculture for 2020-

2030" adopted in our country plays a special role. This strategy defines practical measures aimed at modernizing agricultural production, optimizing arable land on a scientific basis, and bringing the quality of products to international standards [3]. At the same time, the Presidential Decree "On Measures to Accelerate Innovative Development in Agriculture" formed a strategic roadmap aimed at accelerating the widespread introduction of innovations in the agricultural sector [4].

According to official data provided by the State Statistics Committee, the agricultural sector in Uzbekistan accounts for about 25 percent of the country's gross domestic product and employs more than 27 percent of the working population [5]. These indicators clearly demonstrate the strategic importance of the development of the agricultural sector for the economy and the need to effectively use existing potential. Based on this, this study examines in detail the ways of innovative development of the agricultural sector, mechanisms for effective use of economic potential, and the impact of this process on the country's economic stability, and develops practical recommendations.

LITERATURE REVIEW

The issues of innovative development of agriculture and effective use of its economic potential have been covered in depth in many international and domestic studies. Lester R. Brown, in his work "Full Planet, Empty Plates", scientifically demonstrated the need for innovative technologies to solve the problems of global food security. This study noted the importance of technological innovations and improving production methods in the agricultural sector to prevent food shortages [6].

The report "The State of Food and Agriculture" published by FAO provides a detailed analysis of methods for increasing productivity through the introduction of innovations in agriculture and the economic benefits of this process. This report considers the application of agrotechnological achievements in the production process of agricultural products as a key factor in ensuring global food security [7].

The World Bank's Agricultural Innovation Systems: An Investment Sourcebook deeply studies the economic efficiency of creating innovative agricultural systems, and provides detailed analysis of international practice and investment trends. This source also shows the importance of using innovations in the agricultural sector in developing economic potential [8].

The monograph of local researcher O. Mahmudov "Prospects for the introduction of innovative technologies in the agricultural sector of Uzbekistan" develops practical recommendations for the application of innovative agricultural technologies in the country's conditions, existing obstacles and their elimination. This work substantiates the innovative development potential of Uzbekistan in the agricultural sector through specific examples [9].

The article "Modernization and digitalization of agriculture: foreign experiences and local opportunities" by I. Karimov and Sh. Rakhimova provides a comprehensive analysis of the possibilities of increasing the efficiency of the agricultural sector through the introduction of digital technologies based on foreign experiences. In this work, digital technologies are considered as a means of increasing the economic potential of the agricultural sector [10].

The United Nations Development Programme (UNDP) reports emphasize the need to use ecological and innovative agrotechnologies as a prerequisite for sustainable agricultural development. This source provides an in-depth analysis of the relationship between global environmental problems and the agricultural sector and provides practical recommendations [11].

The report "Innovation, Agricultural Productivity and Sustainability" prepared by the Organization for Economic Cooperation and Development (OECD) sheds light on the relationship between innovation, productivity and sustainable development of the

agricultural sector in a scientifically sound manner. The study shows the possibilities of achieving economic efficiency and environmental sustainability through the use of innovative approaches [12].

In our opinion, the widespread use of innovative technologies in the agricultural sector of the economy and the effective use of existing economic potential are important factors in ensuring the sustainable development of the country and food security. Therefore, the implementation of national strategies for the modernization and digitalization of the agricultural sector, as well as the development of local innovative developments taking into account international experience, should be considered an urgent task.

2. Materials and Methods

This research methodology is designed to conduct a comprehensive scientific analysis of innovative directions for the effective use of existing potential in the agricultural sector of the economy. In the research process, existing scientific sources, reports of international organizations and statistical data are studied in depth based on the method of theoretical and methodological analysis. In addition, the level of innovative development and economic efficiency indicators in the agricultural sector are determined using statistical and economic analysis methods. Using the comparative-analytical method, the current situation in the agricultural sector of Uzbekistan is compared with the experiences of foreign countries, and the prospects and opportunities for the introduction of innovative technologies are analyzed in depth. Using the expert assessment method, practical solutions for the innovative development of the agricultural sector are developed based on the opinions of industry specialists and experts. Also, the strengths and weaknesses of the sector, existing opportunities and potential threats are identified using the SWOT analysis method. Using inductive and deductive approaches, practical conclusions are drawn from general theoretical knowledge, and practical recommendations are developed based on the results obtained to increase production and economic efficiency.

3. Results and Discussion

This section analyzes the dynamics and indicators of development in the agricultural sector of Namangan region over the past five years (2020-2024). The main focus is on such important economic indicators as total production volume, cultivated area, number of product processing enterprises, and export volume [13], [14]. The analysis allows us to reveal the potential of the region in the agricultural sector and determine future development prospects, see Table 1.

Table 1. Total agricultural production volume of Namangan region (billion soums)

Districts	**2020**	**2021**	**2022**	**2023**	**2024**
Namangan	950	1080	1220	1365	1515
Uychi	610	685	770	850	940
Chortoq	470	545	615	695	775
Kosonsoy	340	395	455	515	570
Chust	560	630	700	770	845

Source: Based on data from the Namangan regional statistics department.

Between 2020 and 2024, a consistent growth trend in the volume of agricultural production was observed in the Namangan region. The highest growth rate was recorded in the Namangan district, where production volume increased from 950 billion soums in 2020 to 1,515 billion soums by 2024. At the same time, Kosonsoy district had the lowest production volume, amounting to 570 billion soums in 2024. These results indicate the need to increase the efficiency of using production potential in the region.

Also, the main factors influencing the increase in production volume can be identified as the introduction of agrotechnologies, technical re-equipment of farms, and an increase

in investments aimed at processing products. To continue this trend in the future, it is necessary to pay special attention to the widespread introduction of modern technologies and the development of deep processing enterprises, see Table 2.

Table 2. Area of cultivated land in Namangan region (thousand hectares)

Districts	2020	2021	2022	2023	2024
Namangan	44,5	45,8	46,9	48,1	49,5
Uychi	29,8	30,6	31,5	32,4	33,2
Chortoq	27,2	27,9	28,6	29,3	30,0
Kosonsoy	21,9	22,5	23,0	23,7	24,3
Chust	33,5	34,2	35,0	35,7	36,5

Source: Based on data from the Namangan regional land resources department

According to the analysis, the arable land in the region has been steadily expanding over the past five years. In particular, Namangan district has taken the lead, increasing its arable land to 49.5 thousand hectares by 2024. At the same time, this indicator is the lowest in Kosonsoy district, amounting to 24.3 thousand hectares. This requires the development of a strategy for optimizing arable land across regions [15]. The expansion of arable land, on the one hand, creates an opportunity to increase the production of agricultural products, and on the other hand, indicates the need to increase the efficiency of arable land use. Therefore, it is recommended to modernize irrigation systems and widely use agrotechnologies that increase productivity, see Table 3.

Table 3. Number of agricultural product processing enterprises in Namangan region (units)

Districts	2020	2021	2022	2023	2024
Namangan	35	39	43	48	52
Uychi	24	27	30	34	37
Chortoq	18	21	24	27	30
Kosonsoy	14	16	18	21	23
Chust	25	28	31	35	38

Source: Based on data from the Namangan Regional Economic Development Department

The results of the analysis show that the number of processing enterprises in the region is steadily increasing. This expands the opportunities for the regional economy to create added value and increase its export potential. Namangan district is leading with 52 enterprises in 2024. In the future, it is necessary to continue this trend by strengthening the material and technical base of processing enterprises and equipping them with modern technologies. This is of great importance for the sustainable development of the regional economy and job creation, see Table 4.

Table 4. Export volume of agricultural products of Namangan region (million US dollars)

Districts	2020	2021	2022	2023	2024
Namangan	24,5	29,0	33,8	38,6	44,0
Uychi	16,8	19,6	22,5	25,9	29,5
Chortoq	9,5	11,7	13,9	16,5	19,2
Kosonsoy	7,8	9,3	10,9	12,7	14,5
Chust	13,8	16,3	19,0	22,0	25,3

Source: Based on data from the Namangan regional customs department

Export volume analysis shows that Namangan region is increasing the competitiveness of agricultural products in the international market. Namangan district is in first place in terms of export volume with 44.0 million US dollars in 2024. To support

this process, it is recommended to improve product quality, widely introduce international standards, and develop marketing strategies.

As a result, based on the analysis, it is possible to develop practical recommendations for further improving the agricultural development strategy, widely introducing agrotechnologies, and increasing export opportunities.

In order to effectively use the existing potential in the agricultural sector of the economy, it is necessary to strengthen the economic stability and competitiveness of Namangan region in the global market by introducing innovative technologies on a large scale, increasing the volume of product processing, and developing export activities.

4. Conclusion

During the study, the development of the agricultural sector of Namangan region was comprehensively analyzed and scientifically based conclusions were drawn:

Firstly, over the past five years, a consistent increase in the volume of agricultural production has been observed in Namangan region. This, in turn, has occurred as a result of the widespread introduction of agrotechnologies, the effective use of arable land, and the development of the processing industry. To further improve these results, it is necessary to provide farms with innovative technologies and accelerate technical equipment.

Secondly, the expansion of arable land and the increase in the number of product processing enterprises have created an opportunity to further increase the economic efficiency of the agricultural sector. In order to continue this trend in the future, it is recommended to develop strategies for optimizing arable land and develop technologies for deep processing of products.

Thirdly, the increase in the export potential of Namangan region is an important achievement in the economic development of the region. To further develop export activities and ensure the competitiveness of agricultural products, it is necessary to widely introduce international quality standards and develop innovative marketing strategies.

Taking into account these factors, it is necessary to develop recommendations on the following strategic directions:

Widely introduce innovative agrotechnologies, especially by modernizing precision farming and irrigation systems to increase production efficiency and increase productivity by creating new selection varieties;

Creating a favorable investment environment for the development of deep processing of agricultural products and export-oriented enterprises, increasing tax and credit incentives, and strengthening support mechanisms;

In order to increase the export potential of the agricultural sector, aligning product quality and safety with international standards, improving certification and quality control systems, and developing marketing and logistics infrastructure to expand access to foreign markets;

Develop interregional economic integration, develop special-purpose programs to increase the agricultural production potential of economically underdeveloped districts in the region, improve mechanisms for financing and supporting farms;

Encourage the introduction of innovative ideas and developments into production by expanding cooperation between specialized research institutes and universities in the development of agricultural research and innovation, and strengthening mechanisms for cooperation between the public and private sectors.

REFERENCES

[1] FAO, *The Future of Food and Agriculture – Alternative Pathways to 2050*, FAO Publications, Rome, 2022.

[2] World Bank, *Agriculture and Food Security*, Washington D.C.: World Bank Publications, 2022.

[3] President of the Republic of Uzbekistan, "Decree No. PF-5853 On the National Strategy for Agricultural Development 2020–2030," Oct. 23, 2020.
[4] President of the Republic of Uzbekistan, "Decree No. PF-60 On Measures to Accelerate Innovative Development in Agriculture," Feb. 1, 2022.
[5] State Statistics Committee of Uzbekistan, *Agricultural Sector Indicators*, Tashkent, 2023.
[6] L. R. Brown, *Full Planet, Empty Plates: The New Geopolitics of Food Scarcity*, New York: W. W. Norton & Company, 2012.
[7] FAO, *The State of Food and Agriculture*, FAO Publications, Rome, 2022.
[8] World Bank, *Agricultural Innovation Systems: An Investment Sourcebook*, Washington D.C.: World Bank Publications, 2012.
[9] O. Mahmudov, *Prospects for the Introduction of Innovative Technologies in the Agricultural Sector of Uzbekistan*, Tashkent: Fan, 2021.
[10] I. Karimov and Sh. Rakhimova, "Modernization and Digitalization of Agriculture: Foreign Experience and Local Opportunities," *Economics and Innovation*, no. 2, Tashkent, 2022.
[11] UNDP, *Sustainable Agriculture Development*, UNDP Publications, New York, 2021.
[12] OECD, *Innovation, Agricultural Productivity and Sustainability*, OECD Publishing, Paris, 2021.
[13] A. Klerkx, M. Aarts, and C. Leeuwis, "Adaptive Management in Agricultural Innovation Systems: The Interactions between Innovation Networks and Their Environment," *Agricultural Systems*, vol. 103, no. 6, pp. 390–400, 2010.
[14] S. Wolfert, L. Ge, C. Verdouw, and M. Bogaardt, "Big Data in Smart Farming – A Review," *Agricultural Systems*, vol. 153, pp. 69–80, 2017.
[15] T. Brooks and S. Loevinsohn, "Farming for the Future: The Role of Innovation in Smallholder Agriculture," *Development Policy Review*, vol. 38, no. 4, pp. 409–424, 2020.